

Chapter V

Availability and management of health infrastructure in the State

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As per IPHS 2012, on the basis of population, shortfall of Primary Health Centres in the State is 15.47 per cent and that of Community Health centres is 57.52 per cent. Separate examination rooms for pregnant woman were not available in eight test checked SCs, two SCs did not have toilet facilities, six SCs did not have examination tables. Further, in seven out of eight test checked PHCs, separate wards for male and female patients were not available, six test checked PHCs did not have separate septic labour area out of eight test checked PHCs. Two Government Medical colleges upgraded from intake capacity 100 seats to 150 seats in the year 2019 were not provided with infrastructure required for 150 intake capacity. Upgradation of medical colleges without providing required amenities, equipment and teaching faculty may result in incompetent physicians as their training would be constrained by these deficiencies.

5.1 Introduction

Health infrastructure is an important indicator for the healthcare policy and welfare mechanism in a State. To deliver quality health services in public health facilities, adequate and properly maintained building infrastructure is of critical importance.

The National Health Policy (NHP), 2017 envisages attainment of the highest possible level of health and wellbeing for all ages through a preventive healthcare orientation in developmental policies and universal access to good quality health services, without anyone having to face financial hardship.

IPHS, 2012 specified norms to be followed in providing infrastructure at each level healthcare facilities. Government in its reply stated (August 2023) that it is upgrading all the healthcare facilities to comply with IPHS norms.

On scrutiny of the records and data, made available by the Department, Audit observed insufficiencies with regard to infrastructure and availability of health facilities, as discussed in succeeding paragraphs.

5.2 Availability of facilities in Primary healthcare

Primary healthcare is a whole-of-society approach to health and well-being centred on the needs and preferences of individuals, families and communities. It addresses the broader determinants of health and focuses on the comprehensive and interrelated aspects of physical, mental and social health and wellbeing.

It provides whole-person care for health needs throughout the lifespan, not just for a set of specific diseases. Primary health care ensures people receive comprehensive care - ranging from promotion and prevention to treatment, rehabilitation and palliative care - as close as feasible to people's everyday environment.

5.2.1 Availability of Primary Health care facilities in Rural & Tribal Areas

As per IPHS one Primary Health Centre (PHC) should cater to a population of 30,000 in plain areas and 20,000 in tribal/hilly areas and one Sub Centre (SC) to a population of 5,000 in plain areas and 3,000 in tribal/hilly areas. Requirement, availability and shortage of healthcare facilities in the primary health care facilities available in the rural and tribal areas is given in **Table 5.1**.

Table 5.1: Availability of Primary Healthcare facilities in rural areas

Estimated Population for 2021-22			Type of HCF	HCFs Required	HCFs available	Shortfall of HCFs in districts
Total population	Rural population	Tribal population				
5,30,33,000	3,91,84,532	29,21,225	PHC	1,354	1,145	209
			Sub-Centre	8,227	10,032	-

Source: Information furnished by the Director Public Health & Family Welfare

Audit observed that 1,145 PHCs were available against the required 1,345 PHCs with a shortage of 209 PHCs *i.e.* 15.4 *per cent*, in the State of Andhra Pradesh.

District-wise requirement, availability, and shortage of PHCs and SCs, in Andhra Pradesh as of October 2022 are detailed in **Appendix 5.1 and 5.2** respectively.

Government accepted (August 2023) the Audit observation and replied that 88 new PHCs were sanctioned and 63 PHCs were re-located/Co-located. Recruitment of Medical Officers for the New and re-located PHCs was completed.

Status of recruitment of staff nurses and other supporting staff was not furnished by Government in its reply. As the functionality of these new or re-located/co-located PHCs was not on record the shortage remains as 15.4 *per cent*.

5.2.2 Sub-Centres / Sub-Health Wellness Centres

In line with National Health Policy (NHP) 2017, upgradation is an initiative of transforming Sub Centres into Sub-Health and Wellness Centres. NHP defines Health and Wellness Centre as a facility which enables comprehensive primary health care service delivery, including disease prevention and health promotion.

Sub-Health Wellness Centre/Sub-Centre (SC) is the most peripheral and first health care facility of Primary Health Care system for the community. SCs are assigned tasks relating to interpersonal communication in order to bring about behavioural change and provide services in relation to maternal and child health, family welfare, nutrition, immunisation, diarrhoea control and control of communicable diseases programs. A Sub-centre that provides interface with the community at the grass-root level, providing all the primary health care services. The primary focus of SC is to provide promotive, preventive and few curative primary health care along with basic Reproductive and Child Health (RCH) services.

In accordance with GoAP's decision to regard a village/ a ward to have an SC, Government established 10,032 Sub-Centres (SCs) in the State against the requirement of 8,225 SCs as per IPHS. All these SCs are proposed to be upgraded to Ayushman Bharat - Sub-Health wellness centres (AB-SHCs) as per GoI's policy. Shortage of 33

SCs in Kurnool district against requirement (five *per cent*) based on population criteria was noticed.

Government replied (August 2023) that the rural population of Kurnool District is 16,69,926 in 2022-23 and 428 Sub centres were established in the district for an average population of 3,900.

The audit observation pertains to erstwhile Kurnool which is re-organised as districts of Kurnool and Nandyal, whereas the reply of the Government is limited to re-organised Kurnool district only. Reply relating to Nandyal district is awaited.

5.2.2.1 Physical Infrastructure & Location

As per physical infrastructure norms of IPHS, a Sub-Centre (SC) should have its own building or else, premises with adequate space should be rented in a central location with easy access to people and ensure the safety of female staff.

Out of 10,032 SCs functioning in Andhra Pradesh, 1,417 SCs had their own buildings, which is 14.12 *per cent* of its availability. We observed that eight out of nine test checked SCs were centrally located. Of the test checked SCs, six are functioning from village sachivalayams. Of these four were established under the YSR village clinic concept in May 2020. Thus, the SCs were not IPHS compliant, in terms of infrastructure/ facilities, as stated below, for providing quality healthcare services to the rural population.

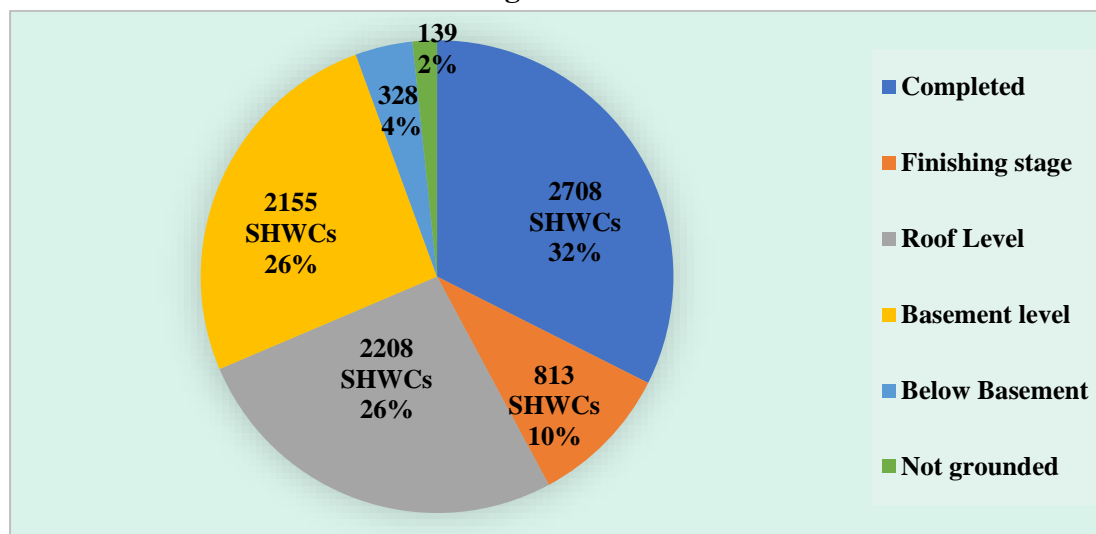
5.2.2.2 Upgradation works of SCs to Sub-HWCs

Government of India announced (February 2018) the creation of 1,50,000 Health and Wellness Centres (HWCs) by transforming existing Sub Centres as the base pillar of Scheme of Ayushman Bharat. These centres would deliver Comprehensive Primary Health Care (CPHC) bringing healthcare closer to the homes of people covering both maternal and child health services and non-communicable diseases, including free essential drugs and diagnostic services. Government of Andhra Pradesh (GoAP) is operating SCs/Sub Health and Wellness Centres (SHWCs) under the name of YSR Health Clinics.

All the nine test checked SCs are under upgradation to SHWCs, however construction works are in different stages.

Out of 10,032 SCs, construction of new buildings was proposed for 8,615 SCs under NHM, 15th Finance Commission Grants and State funds. GoAP has taken up (February 2020) the upgradation work of 8,351 SCs as SHWCs under convergence with MGNREGS. Progress of works was being monitored by the Commissioner of Health and Family Welfare. Construction of 2,708 SC buildings were completed (October 2022) and 5,643 SC buildings were at various stages of construction as shown in the **Chart 5.1** below:

Chart 5.1: Picture showing status of construction of SHWCs



Source: Information furnished by CFW

Government accepted (August 2023) the Audit observation and promised future compliance.

As the primary focus of SCs/SHWCs is on providing Reproductive and Child Health (RCH) services, and non-availability of infrastructure would impact the service delivery.

5.2.2.3 Compliance with NHM Financial Guidelines

NHM Financial Guidelines¹⁰⁹ envisaged that third party monitoring of works and certification of their completion through reputed institutions was to be introduced to ensure quality. Since no record relating to the engagement of a third party to monitor the works during execution and their completion for quality assurance, was made available to the audit, the same could not be ascertained by audit.

Reply from the Government is awaited.

5.2.2.4 Basic Amenities at SCs

Antenatal care is the systemic supervision of women during pregnancy to monitor the progress of fetal growth and to ascertain the well-being of the mother and the foetus. Reproductive and Child Health (RCH) associated services like general examination, abdominal examination and breast examination require partition screen for providing privacy during examination for basic dignity. An examination room, examination table and toilet for sample collection are essentially required in SC as per IPHS, 2012.

We observed that out of nine¹¹⁰ test checked SCs:

- Eight SCs¹¹¹ did not have separate examination rooms,

¹⁰⁹ NHM State Program Implementation Plan for Andhra Pradesh for the Financial year communicated in NHM Record of Proceeding Andhra Pradesh (2019-20)

¹¹⁰ Yarabadu, Gokarnapuram, Kesapuram, Leguntapadu, Chenchuganipalem, Chennuru-I, Thimmapuram, Gorantla-3 and Ganganapalli

¹¹¹ Yarabadu, Gokarnapuram, Kesapuram, Chenchuganipalem, Chennuru-I, Thimmapuram, Gorantla-3 and Ganganapalli

- Two¹¹² SCs did not have toilet facility,
- Examination tables were not available in six¹¹³ SCs,
- In all test checked SCs, medicines were kept in trays instead of Medical Chests to be away from the access of general public, and
- Partition screens were not available in all test checked SCs.

Figure 5.1 below indicates the condition of one of the test checked SCs.



Figure 5.1: Sub Centre Gowravaram, SPSR Nellore district in a small-rented shed (outside and inside the SC (July 2022))

Government accepted (August 2023) the audit observation and stated that all the newly constructed buildings are being provided with these facilities. Some of the items were procured and some are indented to supply to these SHWCs.

Delay in construction of the buildings would have cascading effect on provision of these items and ultimately affects the service delivery.

5.2.2.5 Availability of Equipment and medical consumables

To deliver the desired services with quality, IPHS lays down certain required equipment, supplies, medicines for first aid and emergency care, water quality testing kits and blood smear collection slides to be available at SCs as indicated in **Table 5.2** below. Their availability in test checked SCs is also indicated in the Table.

Table 5.2: Availability of important equipment in test checked SCs

S.No	Description	Yarabadu	Gokarnapuram	Kesupuram	Leguntapadu	Chenchugani palem	Chennur Bit-1	Thimmapuram	Gorantla	Ganganapalli
1	Haemoglobinometer	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No
2	Weighing Scale Adult	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No
3	Weighing Scale, Infant (10Kg)	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
4	Weighing Scale, Hanging type	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No

¹¹² Donkuru of Srikakulam district and Leguntapadu of SPSR Nellore district

¹¹³ Yarabadu and Donkuru of Srikakulam district, Gowravaram of SPSR Nellore district and Karutlapalli, Ganganapalli and Gorantla of Anantapur district

S.No	Description	Yarabadu	Gokarnapuram	Kesupuram	Leguntapadu	Chenchugani palem	Chennur Bit-1	Thimmapuram	Gorantla	Ganganapalli
5	Clinical Thermo-meter oral & rectal	No	Yes	Yes	No	No	Yes	Yes	Yes	No
6	Stethoscope	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
7	Foetoscope	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No
8	Measuring Tape	Yes	Yes	No	No	No	Yes	No	No	No
9	Immunisation chart	No	Yes	Yes	No	No	Yes	Yes	Yes	No
10	Specimen collection Bottles	Yes	Yes	No	No	No	Yes	No	No	No
11	Water quality testing kit	No	No	No	No	No	No	No	No	No
12	Blood smear slide	No	No	No	No	No	No	No	No	No

Source: data sheets furnished by the SCs

Thus, it is observed that water quality testing kits and blood smear slides were not available in all the test checked SCs. We further observed that Chenchuganipalem SC of SPSR Nellore district and Ganganapalli SC of Anantapur district had zero out of the required important equipment. In the absence of important equipment as required above, it is clear that the services to be made available in SCs are not being delivered to the people.

Government accepted (August 2023) the Audit observation and stated that all the 67 prescribed equipment were available as of 18 July 2023.

5.2.3 Primary Health Centres

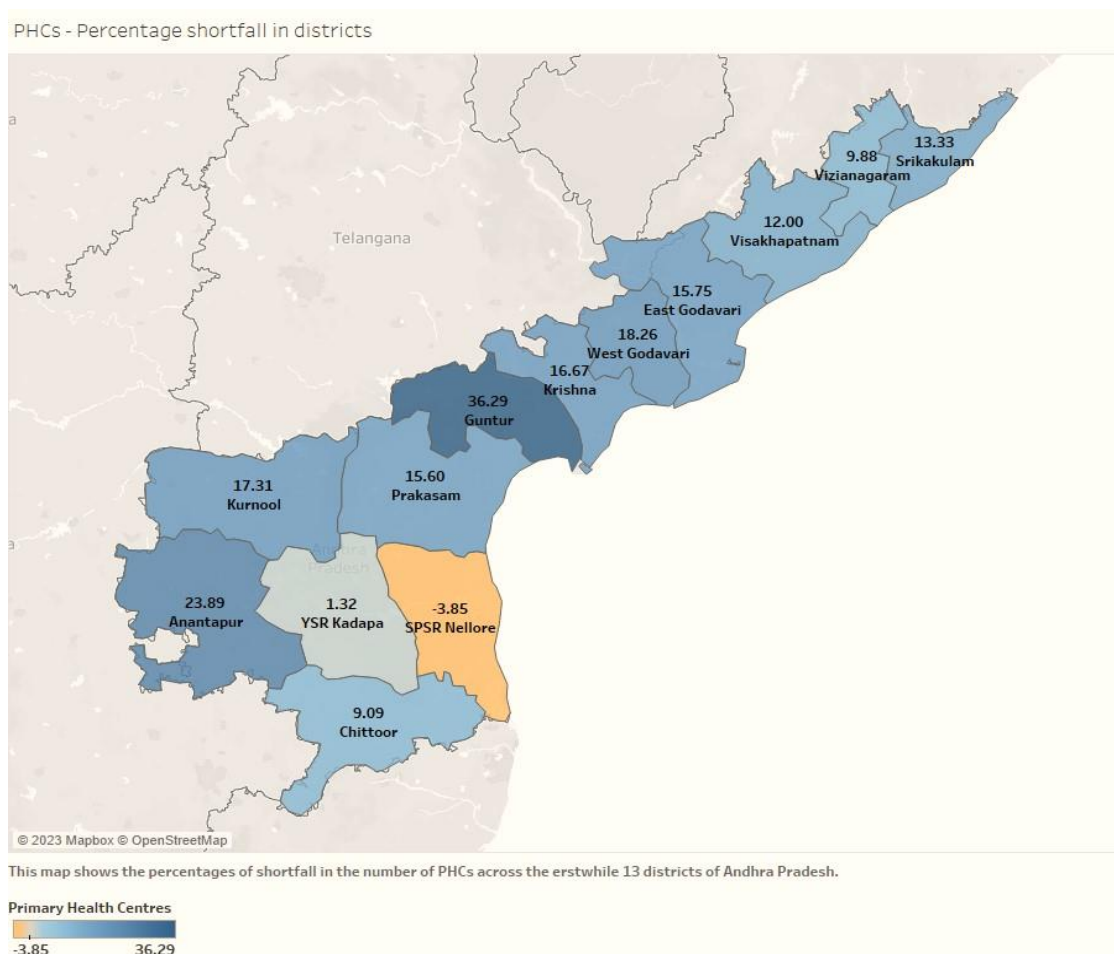
Primary Health Centre (PHC) is the first contact point between the rural community and the Medical Officer. The PHCs aimed at providing an integrated preventive and curative health care for the rural population. One PHC is mandated for 30,000 population in plain areas and one for 20,000 population in difficult/tribal and hilly areas. 'Ayushman Bharat Health Wellness Centre (AB-HWC)' norms recommended that two Medical Officers to the PHC, 14 paramedical and other staff, to act as a referral HCF for five to six SCs and to have four to six beds for in-patients.

As per GoI's policy to upgrade the existing PHCs as HWCs, all the PHCs in the State were upgraded as Health Wellness Centres. Requirement of PHCs was calculated on the basis of population criteria¹¹⁴ (as per estimated population data for 2021-22 furnished by CH&FW). Thus, a shortage of 25 tribal and 184 rural PHCs was noticed. 36 per cent shortage in required number of PHCs was noticed in Guntur district and 24

¹¹⁴ One PHC for a population of 30,000 people in the plain areas and for 20,000 people in tribal and hilly areas

per cent in Anantapur district. Requirement, availability, and shortages of PHCs District wise are given in *Map 5.1* and *Appendix 5.2*.

Map 5.1: District wise percentage shortfall of PHCs in the State



Government replied (August 2023) that 88 new PHCs were sanctioned and 63 PHCs were relocated.

Since 63 PHCs were relocated only and not new PHCs, we observed that there was a shortage of 121 PHCs in terms of population norms.

5.2.3.1 Availability of Physical Infrastructure in PHCs

- (a) PHC Ichapuram (Rural) at Eedupuram, Srikakulam was established (2018) covering some SCs of PHC Koligam. However, as the dedicated or rented building was not available, PHC Eedupuram was offering partial services from the old location of Koligam. During physical verification audit could not find out the records relating this PHC. Medical Officer of PHC, Rajupuram which is 10 kms away, was working as In-charge Medical Officer for PHC, Eedupuram.

Government sanctioned¹¹⁵ an amount of ₹1.84 crore for construction of a new PHC at Eedupuram. Foundation stone for construction was laid (July 2021), however construction did not commence as of June 2022.

Government accepted (August 2023) the Audit observation, and further stated that two regular Medical Officers were recruited in March 2023 for PHC Eedupuram.

- (b) As per IPHS norms, Separate wards/areas should be earmarked for male and female in- patients with a size 5.5 m x 3.5 m each with necessary furniture. However, we observed that seven¹¹⁶ out of eight test checked PHCs were housing both male and female wards in a single room. Kudair PHC, where the bed occupancy was more than 60 *per cent*, was housing both male and female wards in a single room with size of 6.4 m x 3.6 m, with only two beds. The Department replied that the remaining beds taken away by Government General Hospital (GGH), Anantapur during COVID for establishing Covid Care Centre, were not returned. Further, in PHC Kondapuramu, four cots out of six cots were not provided with beds/mattresses.

Government accepted (August 2023) the Audit observation and stated that the PHCs were constructed as per the pre-approved designs and Female and Male wards were partitioned by curtains. Further, the beds taken for establishing Covid Care Centre were returned to PHCs, which were running as six bedded 24X7 PHCs.

The reply that partition by curtain is not acceptable, as IPHS prescribed two separate wards for male and female patients each with a size of 5.5 mts (18 feet) and 3.5 mts (11.5 feet). Further, the privacy of the patients would be compromised if male and female patients were accommodated in single room, and ultimately affect the treatment.

- (c) Septic labour room is a place where the normal deliveries with risk of infection are performed, like cases with venereal diseases and sexually transmitted diseases.

IPHS require separate areas for septic and aseptic¹¹⁷ deliveries in the labour room. Deliveries associated with infection, abscess, infected cysts, *etc.*, are to be organised and planned in the septic labour rooms to prevent post operative

¹¹⁵ GO Rt.No.134 dated 17 Feb 2020

¹¹⁶ Urlam, Karajada, Inamadugu, Thummalapenta, Chennur, Kudair and Kondapuram

¹¹⁷ *aseptic* means free from living micro-organisms that can cause disease. *Aseptic technique* refers to the collection of practices that are designed to avoid the introduction and transfer of germs and contaminants during medical processes

infections. However, we observed that in six¹¹⁸ out of eight test checked PHCs, there was no separate areas for septic and aseptic procedures.

Reply from the Government is awaited.

- (d) National Building Code specified the fire safety requirements for Hospitals, in addition to the general requirements which are common to all buildings. None of the test checked PHCs were provided with fire alarm, smoke detector, hose reel, sprinkler system *etc.*, which are necessary items for fire safety. Sand buckets were also not available in six¹¹⁹ out of eight test checked PHCs. PHC Urlam, Srikakulam district and PHC, Inamadugu, SPSR Nellore district did not have overhead-tank for fire safety.

Government replied (August 2023) that fire extinguishers were supplied to every PHC and fire safety mock drill training was also completed for 700 PHCs. In addition to the above, all PHCs were provided with display boards and escape layouts and PHCs were instructed to maintain sufficient sand buckets to face fire.

The reply was verified (September 2023) by audit in 10¹²⁰ PHCs and observed that escape layouts were not available in six¹²¹ PHCs and sand buckets were not available in eight¹²² PHCs. This indicates that PHCs did not comply with fire safety norms.

5.2.3.2 PHC Upgradation works as Health & Wellness Centres

‘Ayushman Bharat - Health & Wellness Centres (AB-HWCs)’ programme, is a flagship programme of Government of India to move from a selective approach to health care to deliver comprehensive range of services. All the PHCs in the State are designated as AB-HWCs. An amount of ₹413.54 crore for strengthening/ upgradation of 989 PHCs in 13 Districts of the State was sanctioned (February 2020) by GoAP under Nadu Nedu programme.

As of October 2022, 823 works were completed by incurring ₹306.55 crore. Audit, however, observed that the existing PHCs, though converted to HWCs, comprehensive primary healthcare services, as envisaged under the programme, were not available, as the test checked PHCs were deficient in manpower, equipment/ instrument, physical infrastructure, *etc.* as discussed in succeeding paragraphs.

5.2.3.3 Construction of buildings of PHCs

Administrative sanction was accorded (February 2020) for construction of 149 PHCs with an amount of ₹256.99 crores under Nadu Nedu Programme in 13 Districts. The Works were executed by the Panchayath Raj Department and were being monitored by the Commissioner of Health and Family Welfare.

¹¹⁸ Inamadugu, Thummalapenta, Chennur, Kudair, Kondapuram and Narpala

¹¹⁹ Urlam, Karajada, Chennur, Kudair, Kondapuram and Narpala

¹²⁰ Durgi, Mutukuru, Dhulipudi, Emani, Munnangi, Velagaleru Agiripalli, Kondapalli, Kapileswarapuram and Srikakulam

¹²¹ Durgi, Mutukuru, Dhulipudi, Munnangi, Velagaleru and Agiripalli

¹²² Durgi, Mutukuru, Dhulipudi, Emani, Velagaleru Agiripalli, Kondapalli and Kapileswarapuram

We observed (October 2022) that Only 31 works were completed, 33 works were at finishing stage, 31 works were at roof level, 23 works were at brickwork stage, 11 works were up to basement level, ten works were at foundation stage, eight works at tender stage and two works were not taken up due to site related issues.

Government replied (August 2023) that out of 149 works, 56 works were completed, 84 works were under completion and nine works were not yet commenced. Further, two PHCs were sanctioned and they were scheduled to be completed by March 2024.

Delay in completion of construction work affects the service delivery by PHCs.

5.2.3.4 Availability of Equipment and essentialities

IPHS prescribes the minimum space required, furniture and fittings to be available in the PHCs as per need to deliver the services. We observed that five¹²³ out of eight test-checked PHCs did not have wheelchairs and stretcher-on-trolleys for patients. Further, the labour rooms were not equipped with oxygen suction machines and accessible electrical outlets for infants in addition to the facilities required for the mothers in all selected PHCs.

Government accepted (August 2023) the Audit observation and stated that labour rooms were equipped with oxygen, suction machines, and accessible electrical outlets for infants in PHCs. Audit verified (September 2023) 10 PHCs and observed that suction machines in labour rooms were not available in three¹²⁴ PHCs. Further, regarding the wheelchairs and stretcher-on-trolleys for patients, Government promised future compliance.

Availability of standard inventory as per IPHS was verified in all test checked PHCs. We observed that the test checked PHCs were functioning without one or more of the required equipment/number of items of equipment, which are listed in **Appendix 5.3** under three categories viz., Essential medical/ surgical items, requirements for fully equipped Labour room, and equipment and furniture including reagents and diagnostic kits.

Government, without reference to the above inventory, stated (August 2023) that indirect ion selective electrolyte analyser, Fatal Doppler, Westergren stand, Westergren disposable tubes, Binocular Microscope, Semi-Automatic Biochemistry Analyser, Urine analyser, Needle syringe destroyer-Electronic, Desktops, Printers, Barcode Printers and Tabs were only available. Audit verified (September 2023) 10 PHCs and observed that except Binocular Microscope and Urine analyser, all other equipment one or the other were not available in 10 PHCs.

¹²³ Urlam, Inamadugu, Thummalapenta, Chennur and Kondapuram

¹²⁴ Agiripalli, Kondapalli and Srikakulam

5.3 Availability of facilities in Secondary Healthcare

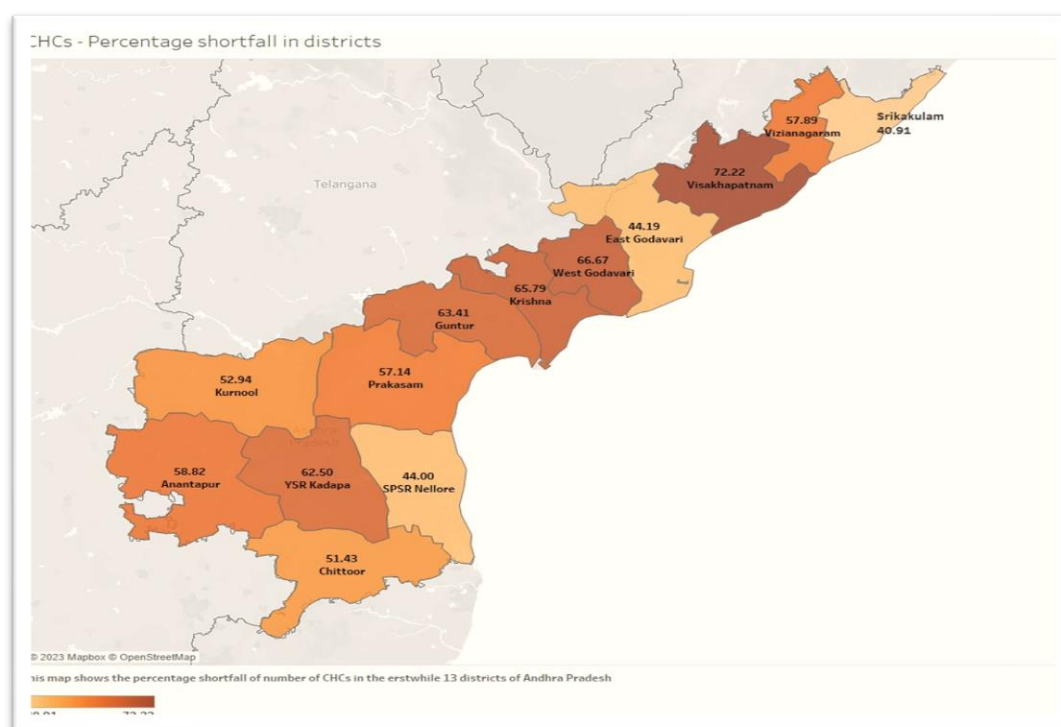
5.3.1 Community Health Centres

CHC serves as a referral centre for PHCs within the block and provides facilities for obstetric care and specialist consultations. CHC should be provided with 30 beds along with an Operation Theatre, Labour room, X-ray, ECG and Laboratory facilities.

5.3.1.1 Availability of CHCs

As per Indian Public Health Standards (IPHS) 2012, four Primary Health Centres (PHCs) are to be included under each CHC thus catering to the population of 80,000 approximately in tribal/hilly/desert areas and 1,20,000 population in plain areas. Based on the 2011 Census, the required number of CHCs is 412 for Andhra Pradesh, whereas the available CHCs were 175 and there is a shortfall of 237 (57.5 per cent) across the State (November 2022) given in *Appendix 5.4*. District wise shortfall of CHCs is detailed in *Map 5.2*.

Map 5.2: District wise percentage shortfall of CHCs in the State



Government replied (August 2023) that 176 CHCs were functioning in the State and each AH catered to the needs of public equal to three 30 bedded CHCs and each DH catered to the needs of public equal to eight to ten CHCs.

The justification provided by the Government was in contravention to the IPHS, 2012 norms *ibid*.

5.3.1.2 Upgradation of CHCs

GoAP had taken up (February 2019) the upgradation works of CHCs for strengthening and up-gradation of hospitals from NABARD funds. The Packages were grouped region-wise into three and the number of works to be taken up in the districts under each package is summarised in **Table 5.3**.

Table 5.3: Status of Strengthening and upgradation of works for CHCs.

S.No.	Package No.	Names of the Districts in the package	No. of works	Amount (₹ in Crore)
1	No.1	Srikakulam, Vizianagaram, Visakhapatnam, East Godavari and West Godavari	45	169.19
2	No.2	Krishna, Guntur, Prakasam and SPSR Nellore	35	121.87
3	No.3	Chittoor, YSR, Anantapur and Kurnool	38	142.91
Total			118	433.97

Source: Data furnished by APMSIDC

Andhra Pradesh Medical Services & Infrastructure Development Corporation (APMSIDC) concluded (October 2020) the package wise agreements with three different contractors. The works which should have been completed in January 2022 were not completed (October 2022). In terms of expenditure, only 40 *per cent* of work has been completed.

All the three-test checked CHCs¹²⁵ were functioning in Government buildings. Construction work of new buildings at CHCs Kothacheruvu, Naidupeta and a new additional block at CHC Sompeta were also in progress.

CHC, Kothacheruvu in Anantapur district

Government upgraded¹²⁶ PHC, Kothacheruvu as 30 bedded CHC, Kothacheruvu (February 2019). An agreement was entered with the contractor for construction of new CHC building for ₹335.74 lakh in October 2020 with scheduled date of completion in January 2022. Extension of time was granted by APMSIDC till December 2022 for completion of the work.

However, work done was ₹68.61 lakh (20.44 *per cent* of total work) only as of September 2022. CHC Kothacheruvu is functioning with six beds in the old PHC building without facilities like Operation Theatre, Emergency beds, Casualty ward *etc.* Due to lack of adequate seating arrangements and incomplete construction of new



Figure 5.2: OP patients waiting outside CHC, Kothacheruvu (August 2022)

¹²⁵ CHCs Kothacheruvu, Naidupeta and Sompeta

¹²⁶ GO Ms No. 36 (HM&FW) dated 15 February 2019

building, out-patients were waiting outside the proper building for getting registration and consultation with doctor in CHC Kothacheruvu. (See **Figure 5.2**)

Thus, due to delay in construction of work, the services intended to be provided by the CHC Kothacheruvu were not delivered in full, though three years had elapsed after the upgradation of CHC. Effectively, CHC, Kothacheruvu is functioning like a PHC as the number of beds, services such as OTs, emergency beds, casualty, *etc.*, were not yet provided.

Government accepted (August 2023) the Audit observation and stated that the delay in work was due to COVID-19 pandemic and assured future compliance.

CHC, Naidupeta, SPSR Nellore district

A work providing facelift to CHC Naidupeta was taken up¹²⁷ and completed¹²⁸ (June 2018) with an expenditure of ₹61.12 lakhs. Work satisfactory certificate, stating that the renovated work was done satisfactorily, and all the fixtures were in good condition, was issued (January 2019) by the Medical Officer.

Subsequently, Government accorded administrative sanction¹²⁹ (January 2020) for an amount of ₹5.13 crore for strengthening of CHC and agreement was concluded (October 2020) with a contractor¹³⁰. As per the work order, the existing floor area 7,599.32 sq.ft (706 sq.m) which was facelifted, was dismantled to carry out construction of new building for CHC, Naidupeta. Extract of the approved plan of the Strengthening work can be seen in **Figure 5.3**. However, work had progressed to only 44.97 per cent (July 2022).

Thus, the expenditure made on facelifting to the extent of dismantling became wasteful.

Government accepted (August 2023) the audit observation and stated that in order to provide additional facilities, the old building was dismantled and new CHC building was taken up as per IPHS.

AREA STATEMENT					
TOTAL SITE AREA	1.79Acre	7243.87 Sqm	25047 sq. yard	8663.59 sft	
EXISTING AREA	IN SQM	IN SFT	PROPOSED AREA	IN SQM	IN SFT
GROUND FLOOR	994.4	10703.6325	GROUND FLOOR	1225.52	13191.39
			FIRST FLOOR	796.42	8572.594
TOTAL	994.4	10703.6325		2021.94	21763.98
TOTAL (EXISTING+PROPOSED)		3016.34	Sqm	32467.613	Sft
DISMANTLING AREA		706	Sqm	7599.3207	Sft

KEY PLAN:
<i>Figure 5.3: Extract of the approved plan</i>

¹²⁷ Memo No. 16934/1.1/2004, dated 16.02.2017 of the Principal Secretary to Govt, HM&FW (1.1) Dept

¹²⁸ Agreement No. 40/APMSIDC/2017-18, dated 14.09.2017 of the Chief Engineer, APMSIDC, Mangalagiri

¹²⁹ G.O Rt NO. 28 of HW & FW(D1) Dept, dated 16.01.2020.

¹³⁰ M/s Megha Engineering and Infra Limited

Due to the delay in construction work, CHC Naidupeta is functioning in 288.4 sq.m (19.18 *per cent*) instead of the required area of 1,503.32 sq.m, as per IPHS for CHC. Cots for in-patients were placed in a heap in the verandah near corridor due to lack of space which can be seen in **Figure 5.4**. Four Paediatric cots which were not in use were dumped in the corridor.



Figure 5.4: Cots dumped in the corridor (July 2022)



Figure 5.5: Storeroom with drugs /medicines placed haphazardly (July 2022)

In the storeroom, drugs/medicines were kept on the floor and boxes containing drugs/medicines were scattered all over. This can be seen in **Figure 5.5**.

The CHC is functioning with very less space than it required as per IPHS 2012. In a congested hospital, privacy to the patients could not be ensured.

CHC, Sompeta, Srikakulam

Construction of 30 bedded new building (Isolation ward, NBSU, Labour Room, Maternity ward) with an estimated cost of ₹4.60 crore was planned (February 2019) with a scheduled date of completion in January 2022. However, only 12.04 *per cent* of the work was completed (June 2022).

Government attributed (August 2023) the delay to COVID and stated that two floors (Ground and first floor) of CHC Sompeta were completed except electrical and plumbing works with an expenditure of ₹2.76 crore (60 *per cent*).

The reply of the Government indicates that 40 *per cent* of work is still incomplete.

5.3.1.3 Equipment in Laboratory

IPHS 2012 prescribed ten types of Laboratory Equipment for CHCs such as Binocular Microscope with oil immersion, Lancet¹³¹, Ice Box, Stool transport carrier, Test tube rack, Tabletop centrifuge¹³², Refrigerator, Spirit Lamp, Smear transporting box and Sterile leak proof containers.

We observed in test checked CHCs that:

¹³¹ Used to obtain small blood specimens

¹³² Separate or concentrate a liquid medium density for applications including tissue culture, protein work, cell harvesting *etc.*

- Binocular Microscope with oil immersion, Test tube rack were available in CHC Sompeta.
- Binocular Microscope with oil immersion, Lancet and Test tube rack were available in CHC Naidupeta.
- Lancet and Tabletop Centrifuge were available in CHC Kothacheruvu.
- Ice Box, Stool transport carrier, Refrigerator, Spirit lamp, Smear transporting box, Sterile leak proof containers were not available in all the test checked CHCs.

Government replied (August 2023) that all CHCs except Kothacheruvu were provided with fully automatic analysers, and 55 types of tests are being conducted at CHCs as per IPHS, 2022. With regard to CHC Kothacheruvu, Government assured future compliance.

5.3.1.4 Equipment in Operation Theatre

IPHS 2012 prescribes ten essential OT equipment to be available in CHC. The availability of Equipment in Operation Theatres in test checked CHCs¹³³ is shown in **Table 5.4**.

Table 5.4: Availability of equipment for OT in test checked CHCs

Sl. No.	Name of Equipment	CHC Sompeta	CHC Naidupeta	CHC Kothacheruvu
1	Auto Clave HP	Yes	Yes	Since OT was not available, no equipment was available.
2	Operation Table Hydraulic Major	Yes		
3	Operation table Hydraulic Minor	No	Yes	
4	Shadow less lamp ceiling type major	No	No	
5	Shadow less Lamp stand model/Potable	Yes	Yes	
6	Steriliser (Medium instruments)	Yes	Yes	
7	Diathermy Machine (Electric Cautery)	No	Yes	
8	Suction Apparatus – Electrical	Yes	Yes	
9	Wheelchair	Yes	Yes	
10	Stretcher on trolley	Yes	Yes	

Source: Hospital records

Government accepted (August 2023) that no OT was available in CHC Kothacheruvu as it was still functioning in old building. Further, it was stated that after handing over of the new building OT services would be available.

No reply with regard to Operation Theatre services in Sompeta and Naidupeta was furnished by the Government.

¹³³ CHCs Sompeta, Naidupeta and Kotha Cheruvu

5.3.2 Area Hospitals

Sub-district (Sub-divisional)/Area hospitals are below the district and above the block level (CHC) hospitals and act as First Referral Units for the Tehsil/Taluk/block population in which they are geographically located. Specialist services are provided through these Subdistrict hospitals and they receive referred cases from neighbouring CHCs, PHCs and SCs (Sub-District Hospitals in Andhra Pradesh are termed as Area Hospitals).

5.3.2.1 Availability of buildings in Area Hospitals

GoAP permitted APMSIDC to take up works under region wise packages for strengthening and up-gradation¹³⁴ of Area Hospitals in the State as shown in **Table 5.5**.

Table 5.5: Package wise works sanctioned for Strengthening and Upgradation of AHs

Sl. No	Package	Names of the Districts in the package	No of works	Amount (₹ in crore)
1	No.1	Srikakulam, Vizianagaram, Visakhapatnam, East Godavari and West Godavari	18	199.04
2	No.2	Krishna, Guntur, Prakasam and SPSR Nellore	09	110.39
3	No.3	Chittoor, YSR, Anantapur and Kurnool	18	253.15
Total			45	562.58

Source: APMSIDC records

APMSIDC entered (October 2020) into the package wise agreements with three different contractors. As per the schedule, all the works were to be completed by January 2022. As of October 2022, only 33 *per cent* of work was completed.

Due to non-completion of the works, Area Hospitals were running without required infrastructure for providing all mandatory services as detailed below.

Area Hospital, Seethampeta, Srikakulam district

AH Seethampeta was upgraded from a 30 bedded CHC to 100 bedded in 2019. The hospital is being operated in a building made for a 30 bedded CHC (1640 sq.m) as of June 2022.

- The upgradation work included adding an area of 1,956 sqm to the existing 1,640 sqm and was taken up by APMSIDC in October 2020 at a cost of ₹16.54 crore under Package-I. The scheduled date of completion of work was 25 January 2022. However, as of October 2022, only 15.07 *per cent* of work was completed.

¹³⁴ vide GO Rt No.313 dated 29.06.2020 of Dept of Health, Medical and Family Welfare (D1)



**Figure 5.6: Paediatric beds placed in corridor
AH Seethampeta (June 2022)**



**Figure 5.7: Seepage in ward
at AH Seethampeta (June 2022)**

- some paediatric beds were placed in the corridor due to lack of space in wards as shown in **Figure 5.6**.

As per IPHS 2012, the minimum area required for a 100 bedded Area Hospital is 6,500 sq.m. However, AH Seethampeta is functioning in 1,640 sq.m only, which is 75 *per cent* less than the required area (6,500 sq.m – 1,640 sq.m = 4,860 sq.m).

Government attributed (August 2023) delay in construction to COVID pandemic and stated that 75 *per cent* of the work except external plastering, painting, fixing of sanitary and electrical fittings, *etc.*, was completed with an expenditure of ₹10 crore.

Area Hospital, Kavali, SPSR Nellore district

The work for strengthening of the hospital was taken up by APMSIDC¹³⁵ in October 2020 at a cost of ₹12.95 crore under Package-II. The scheduled date of completion of work was 25 January 2022. However, as of October 2022, only 32.60 *per cent* of work was completed.

Government attributed (August 2023) delay in construction to COVID pandemic and stated that about ₹Eight crore was incurred towards expenditure (62 *per cent* work was completed) against agreed work value of ₹12.95 crore.

¹³⁵ vide GO RT No 631 dated 18.11.2019

Area Hospital, Kadiri, Anantapur district

Outpatient Department building (OPD) was demolished in July 2019. The construction of new building was taken up by APMSIDC in October 2020 at a cost of ₹14.33 crore under Package-3. As per the agreement, the building was to be completed by January 2022. However, as of August 2022, the work was completed up to the pillar level *i.e.*, 13.91 *per cent* only.

Due to the non-completion of construction of the building, OPD was functioning in RMO residential quarters.

Three doctors were accommodated in one room, two doctors in another room and three doctors in kitchen. Pharmacy and Gynaecology OP were accommodated in the remaining rooms.

Outpatients were standing on the road for getting registration at AH Kadiri as can be seen in **Figure 5.8**.



Figure 5.8: Patients standing on road for OPD registration AH, Kadiri (August 2022)



Figure 5.9: Outpatients standing in queue for consultation with OP doctor at AH Kadiri (August 2022)

As per IPHS 2012, minimum area required for a 100 bedded Area Hospital (AH) is 6,500 sq.m. After dismantling, AH Kadiri is functioning with an existing area of 4,633 sq.m, having a shortfall of 1,867 sq.m.

Medical Superintendent replied that the buildings containing the OP block, paediatric block, drugs store and compound wall were demolished in July 2019 for the construction of the new building. The construction of the new building was not completed as of August 2022.



Figure 5.10
Out-patients standing, waiting at Injection Room at AH Kadiri (August 2022)



Figure 5.11
Patients standing in two separate queues for collecting medicines from OP medicines issue counter(left) and for consultation with OP doctor (right) at AH Kadiri (August 2022)

Government attributed (August 2023) delay in construction to COVID pandemic and stated that about ₹ one crore was incurred towards expenditure and promised future compliance.

Government accepted the Audit observation.

5.3.2.2 Laboratory Equipment in Area Hospital

IPHS 2012 prescribed 33 number of essential laboratory equipment for AHs.

Test check of three Area Hospitals revealed that the percentage shortfall in the availability of laboratory equipment was 33 *per cent* in Kavali, 45 *per cent* in Seethampeta and 52 *per cent* in Kadiri.

The availability of Laboratory equipment in the test checked Area Hospitals is shown in (*Appendix 5.5*)

- Essential laboratory equipment such as Balance (Electrical Monopan), Simple balance, Hot plates, Paediatric Glucometer/Bilirubinometer, Alarm clock and Bio-safety Cabinet (Class-I) were not available in three test checked AHs.
- In AH Kavali, due to non-availability of the required equipment, full range of investigations were not conducted.
- In AH Kadiri, due to non-availability of equipment *i.e.*, incubator and CBP rotator, all the envisaged investigations were not conducted.

Government accepted (August 2023) the audit observation and stated that equipment *viz.* fully automatic analyser, semi-automatic analyser, TSH, T3, T4 analyser, Hot air oven, incubator and Urine analyser were supplied to all the AHs as per IPHS and installation was also completed. Further, it was stated that all the tests were conducted in AHs Kadiri and Kavali except AH Seethampeta, where tests were partially conducted due to insufficient equipment and reagents.

5.3.2.3 Operation Theatre (OT)

As per IPHS 2012, every AH should have two operation theatres (OTs) (i) Elective OT-major and (ii) Emergency OT/FW OT.

Two operation theatres were available in AHs Kadiri and Kavali. In AH Seethampeta, one general operation theatre was available.

IPHS 2012 also prescribed 14 essential equipment for Operation Theatres to the AHs.

We observed shortfall in the availability of equipment in OTs in three AHs as detailed below in **Table 5.6** below.

Table 5.6: Availability of Medical Equipment in OTs of Test checked Area Hospitals

Sl. No.	Medical Equipment Name	AH Seethampeta (Yes/No)	AH Kavali (Yes/No)	AH Kadiri (Yes/No)
1	Auto Clave HP Vertical	Yes	Yes	Yes
2	Operation Table Hydraulic Major	No	Yes	Yes
3	Operation table Hydraulic Minor	No	No	Yes
4	Operating table non-hydraulic field type	Yes	Yes	No
5	Autoclave vertical single	Yes	No	No
6	Shadow less Lamp stand model	Yes	Yes	Yes
7	Focus lamp Ordinary	No	Yes	No
8	Steriliser (Big instruments)	No	Yes	Yes
9	Steriliser (Medium instruments)	No	Yes	Yes
10	Steriliser (Small instruments)	Yes	Yes	Yes
11	Diathermy Machine (Electric Cautery)	Yes (not working)	Yes	Yes
12	Suction Apparatus – Electrical	Yes	Yes	Yes
13	Suction Apparatus - Foot operated	Yes	No	No
14	Ultraviolet lamp philips model 4 feet	No	No	No
Seethampeta – Shortage percentage – $(6/14 \times 100 = 42.85\%)$				
Kavali – Shortage percentage – $(4/14 \times 100 = 28.57\%)$				
Kadiri – Shortage percentage – $(5/14 \times 100 = 35.71\%)$				

Source: Information provided by test checked AHs

- OT Table Hydraulic major and Steriliser (Big & medium instruments) were not available and Diathermy Machine (Electric Cautery) was not in working condition in AH Seethampeta.
- Operating table non-hydraulic field type was not available in AH Kadiri
- Operation table Hydraulic Minor was not available in AH Seethampeta and AH Kavali.
- Autoclave vertical single, Foot operated Suction Apparatus were not available in AH Kavali and AH Kadiri.
- Focus lamp Ordinary was not available in AH Seethampeta and AH Kadiri.

- Ultraviolet lamp (four feet) which is commonly used for disinfection, was not available in the three test checked AHs.

Government accepted (August 2023) the audit observation and stated that out of 14 equipments, five equipments¹³⁶ in AH Seethampeta, one¹³⁷ in AH Kavali and five¹³⁸ in AH Kadiri were not available as of August 2023.

Government further replied that steriliser for big instrument, and steriliser for medium instrument were not in use as disposable syringes and disposable surgical consumables were utilised and stated that ₹90 lakh were sanctioned under the NABARD for procurement of the above items for AH Kadiri.

5.3.3 District Hospitals

Every district is expected to have a district hospital. During the period under review Andhra Pradesh with 13 districts is having 12 District Hospitals. Out of 12 DHs, one DH at Chittoor is functioning under PPP mode. As per IPHS, bed strength for a DH varies from 75 to 500 beds depending on the size, terrain, and population of the district. However, in AP, bed strength in DHs varies from 150 to 400 beds.

5.3.3.1 Laboratory Equipment in District Hospital

IPHS 2012 prescribes 60 Laboratory equipment for a District Hospital(DH). Shortfall in laboratory equipment in test checked DHs was 52 *per cent* in DH Tekkali, 45 *per cent* in DH Atmakur and 42 *per cent* in DH Hindupur. Shortfall in various essential Laboratory equipment was noticed in all 12 DHs as detailed in *Appendix 5.6*.

Government replied (August 2023) that;

In **DH Tekkali**,

- The laboratory equipment such as Spirit lamp, Test tube holders, ESR tubes, Fine Needle Aspiration Cytology, TCDC count apparatus were not available at the time of audit were available and functional now.
- For Micro-Biology Equipment installation, laboratory needs infrastructure modifications *i.e.*, civil works which were ongoing and the micro biologist was deputed for training to RIMS Srikakulam.

In **DH Hindupur**,

- Thyroid T3, T4, TSH test were not available due to non-installation of equipment and
- Auto immunological and fully automate analyser worth ₹18 lakhs was not installed due to space constraints,
- Due to electrical issues, some equipment such as automated analyser and Auto immune analyser was yet to be installed.

Further, it was stated that in **DPHL, Hindupur**, Hanging drop preparation for V. Cholera test was available. Pathologist was now available for conducting Semen analysis, CSF analysis, cell count, and cytology under aspirated fluids.

¹³⁶ Operating table non- hydraulic field type, Focus lamp ordinary, Steriliser (Big instruments), Steriliser (medium instruments) and UV lamp

¹³⁷ Steriliser (small instruments)

¹³⁸ Operating table non- hydraulic field type, Steriliser (small instruments), Suction apparatus (Electrical), Suction apparatus (Foot operated) and UV Lamp

In DH Atmakur,

Fine Needle Aspiration Cytology was not done due to non-availability of Pathologist and promised future compliance regarding provision of Chemical balance, simple balance, spirit lamp, alarm clock, floatation bath, emergency drug trolley with auto cylinder, and Cytospin. It was further stated that essential laboratory equipment such as TCDC Count apparatus, ESR stand with tubes, test tube holder was available in DH, Atmakur. Glycosylated Haemoglobin test was available from April 2023.

However, supporting documents were not furnished to audit to ensure the availability of these equipment.

5.3.3.2 Operation theatre (OT)

As per IPHS 2012, DHs shall have three types of Operation Theatres viz., Elective OT-Major, Emergency OT/FW OT and Ophthalmology/ENT OT. We observed that in all twelve¹³⁹ DHs, these three types of OTs are available.

IPHS 2012 also prescribed essential equipment for OTs in DHs. A shortfall in the availability of equipment for the operating theatre was observed in three test checked DHs as shown in **Table 5.7**.

Table 5.7: Availability of Medical Equipment in OTs in test checked DHs

S. No	Equipment in OT	DH TEKKALI	DH ATMAKUR	DH HINDUPUR
1	Auto Clave HP Horizontal	Yes	No	Yes
2	Auto Clave HP Vertical	Yes	Yes	Yes
3	Operation Table Hydraulic Major	Yes	Yes	Yes
4	Operation table Hydraulic Minor	Yes	Yes	No
5	Operating table non-hydraulic field type	Yes	Yes	No
6	Autoclave vertical single	Yes	Yes	Yes
7	Shadowless Lamp stand model	Yes	Yes	Yes
8	Focus lamp Ordinary	No	Yes	Yes
9	Steriliser (Big instruments)	No	No	Yes
10	Steriliser (Medium instruments)	No	Yes	No
11	Steriliser (Small instruments)	Yes	No	No
12	Bowl Steriliser Big	No	No	No
13	Bowl Steriliser Medium	No	No	No
14	Diathermy Machine (Electric Cautery)	Yes	Yes	Yes
15	Suction Apparatus – Electrical	Yes	Yes	Yes
16	Suction Apparatus - Foot operated	No	Yes	No

¹³⁹ Paderu, Parvatipuram, Anakapalli, Tanuku, Tenali, Markapur, Madanapalle, Chittoor, Proddatur, Tekkali, Atmakur and Hindupur

S. No	Equipment in OT	DH TEKKALI	DH ATMAKUR	DH HINDUPUR
17	Ultraviolet lamp Philips model 4 feet	No	No	No
Total not available		7	6	8

Source: Hospital records

Government replied (August 2023) that due to budget constraints, Focus Lamp ordinary Steriliser (Big & Medium instruments), Bowl Steriliser (Big & Medium), Suction Apparatus-foot operated and Ultraviolet lamp (four feet) were not procured and would be procured in the current financial year for DH Tekkali.

Further, Government stated that at DH Atmakur, all the equipment was available now except Ultraviolet lamp Philips model four feet which was under procurement process.

Government further replied (August 2023) that at DH Hindupur, Operation table Hydraulic Minor, OT non-hydraulic field type, Steriliser (Medium & Small instruments), Bowl Steriliser (Big & Medium), Suction Apparatus-foot operated and Ultraviolet lamp (four feet) were available now. However, supporting documents were not furnished to audit to ensure the availability of these equipment.

5.3.3.3 Equipment for ENT services

As per IPHS (2012), ENT services should be available in the DHs. IPHS also prescribes ENT equipment for DHs. ENT specialist doctor was available in all twelve¹⁴⁰ DHs. However, ENT specialist doctor was not available in DH Atmakur up to July 2022.

The availability of eight¹⁴¹ essential equipment and instruments in all twelve DHs is detailed below;

- **Operating Microscope (ENT)** was not available in DH Parvathipuram, DH Markapur.
- **Headlight ordinary** was not available in DH Parvathipuram, DH Tenali, DH Markapur, DH Chittoor and DH Proddatur.
- **Laryngoscope fibre optic (ENT)**, an instrument used for performing tracheal intubation for patients with abnormal upper airway anatomy was not available in DH Tekkali, DH Paderu, DH Tenali, DH Markapur, DH Chittoor and DH Proddatur.
- **Laryngoscope direct** (used for visualisation of larynx) is often used during general anesthesia, surgical procedures around the larynx and resuscitation. Both these Laryngoscopes were not available in DH Tekkali, DH Parvathipuram, DH Tenali, DH Markapur and DH Proddatur.
- **Tracheostomy Set** is used for creating an opening at the front of the neck so a tube can be inserted into the windpipe (trachea) to help the patient to breathe. This

¹⁴⁰ Paderu, Parvatipuram, Anakapalli, Tanuku, Tenali, Markapur, Madanapalle, Chittoor, Proddatur, Tekkali, Atmakur, Hindupur

¹⁴¹ Audiometer, Operating Microscope, Head light (ordinary) (Boyle Davis), Laryngoscope fiberoptic (ENT), Laryngoscope direct, Otoscope, Tracheostomy Set and Tuning fork.

was not available in DH Paderu, DH Parvathipuram, DH Tenali, DH Markapur, DH Chittoor and DH Proddatur.

- **Tuning Fork** was not available in DH Paderu, DH Tenali.

Government accepted (August 2023) the Audit observation.

5.3.3.4 Imaging Equipment

X-rays are used to detect bone fractures, certain tumors and other abnormal masses, pneumonia, some types of injuries, calcifications, foreign objects *etc.*

IPHS 2012 prescribes radiology services for the DHs (X-ray, Ultrasonography and Dental X-ray, *etc.* X-ray service was available in all twelve DHs. However, dental X-ray service was not available in eight¹⁴² DHs.

Audit observed that the full range of imaging services were not available in the test checked DHs. The details of availability of imaging services are shown in **Table 5.8**.

Table 5.8: Availability of equipment for imaging services in 12 DHs

Imaging Services		Tekkali	Atmakur	Hindupur	Paderu	Parvathipuram	Anakapalli	Tanuku	Tenali	Markapur	Madanapalli	Chittoor	Proddatur
X-ray	300 mA machine	No	No	No	No	Yes	Yes	Yes	No	Yes	No	No	Yes
	100 mA machine	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	60 mA* machine	Yes	Yes	Yes	No	No	Yes	No	No	Yes	No	Yes	Yes
	Dental X-ray	No	No	Yes	No	Yes	No	No	No	Yes	No	No	Yes

Source: hospital records

*mA denotes Million Amperes per second

300 mA X-ray machines though available at six DHs (Tekkali, Atmakur, Hindupur, Paderu, Madanapalli and Chittoor) were not in working condition.

Dental X-rays are used to diagnose diseases affecting the teeth and the bones. They provide important information to plan the appropriate dental treatment. Though Dental X-ray machines were available in DHs Tekkali, Atmakur and Tanuku they were not in working condition.

Due to non-availability of Dental X-ray machines, appropriate dental treatment to the patients could not be assured.

Government accepted (August 2023) the audit observation.

5.4 Availability of facilities in Tertiary Healthcare

5.4.1 Medical colleges

For the academic year 2021-22, there are 11 Government, 17 Private & one Aided Government Medical Colleges in the State as detailed in **Table 5.9**.

¹⁴² Paderu, Anakapalli, Tanuku, Tenali, Madanapalle, Chittoor, Tekkali and Atmakur

Table 5.9 - Details of Government & Private Medical Colleges with UG seats

S. No.	Category of the Medical College	No of colleges available	No of UGs seats
1	Government	11	2,185
2	Private	17	2,650
3	SVIMS (semi govt)	01	175
Total		29	5,010

Source: furnished by Director of Medical Education

In addition to the above there are two institutes *i.e.*, All India institute of Medical sciences at Mangalagiri and Regional Ayurveda Research institute for skin disorders at Vijayawada functioning with GoI funds.

Out of 11¹⁴³ Government Medical Colleges, three Medical Colleges listed in **Table 5.10** were selected for test check /detailed scrutiny of the records for the period 2017-18 to 2021-22.

Table 5.10: Details of Test checked Medical Colleges

S.No.	Name of the Medical college	No of Seats
1	GMC, Anantapur	150
2	GMC, SPSR Nellore	175
3	GMC, Srikakulam	150

Source: furnished by Director of Medical Education

M/s Anantapur Medical College Trust, Anantapur was converted into GMC, Anantapur in the year 2000 with 100 seats intake annually & subsequently the Government had increased seats from 100 to 150 seats in the year 2019.

D.S.R Government District Hospital, Nellore was upgraded to Government General Hospital (GGH) and attached to newly established ACSR Government Medical College with 150 MBBS seats in the year 2014. Subsequently, Government had increased seats from 150 to 175 in the year 2019.

District Hospital, Srikakulam was upgraded to Government General Hospital (GGH) and attached to newly established Government Medical College (named as RIMS), Srikakulam with 100 MBBS seats. Subsequently the Government had increased seats from 100 to 150 in the year 2019.

5.4.1.1 Availability of Buildings/Infrastructure

As per clause A.1.1 of Minimum Standard Requirement Rules (MSRR)1999, for 150/200 admissions annually, the medical college shall be housed in a unitary campus of not less than **20 acres** of land. Further, minimum accommodation requirements prescribed for Medical Colleges are detailed below:

1. Administrative Block consisting of working accommodation for Principal/Dean's office, staff, College Council, Office Superintendent, records, common room for male and female with attached toilet and cafeteria.

¹⁴³ 1. Govt. Medical College, Srikakulam; 2. Andhra Medical College, Visakhapatnam; 3. Ranga Raya Medical College, Kakinada; 4. Siddhartha Medical College, Vijayawada; 5. Guntur Medical College, Guntur; 6. Govt. Medical College, Ongole; 7. Govt. Medical College, Nellore; 8. S.V. Medical College, Tirupati; 9. Govt. Medical College, Kadapa; 10. Kurnool Medical College, Kurnool; and 11. Govt. Medical College, Anantapur

2. College council, Central library, lecture theatre, examination hall, Central Photographic Section, central workshop, and animal house.

Audit observed that the extent of land with the colleges was sufficient as per the requirement in all the three GMCs.

5.4.1.2 Shortfall in accommodation in GMCs

Out of nine elements¹⁴⁴ of accommodation, shortfall in five elements was noticed in the test checked GMCs as detailed below:

- a. **Central Library:** As per Clause A.1.4 of MSRR, 1999, there shall be air-conditioned Central library of 2400 Sq.m & 3200 Sq.m with seating arrangement for at least 300 and 400 students for 150 & 200 admissions respectively.

Shortfall observed in availability of space and seating capacity in Central Library is shown in **Table 5.11**.

Table 5.11: Details of availability of space and seating capacity in Central Library of test checked GMCs

Description	Requirement as per MSRR, 1999 for 150 admissions	Anantapur (150 seats)	Srikakulam (150 seats)	Requirement as per MSRR, 1999 for 200 admissions	Nellore
Total area of Central Library (in sq.m)	2400	334.44	650	3200	2270
Total Seating capacity of Library	300	550	150	400	300

Source: Medical College records

- b. **Lecture Theatre:** As per clause A.1.5. of MSRR, 1999, for colleges with 150 admissions, there shall be four Lecture Theatres of gallery type for 180 students each and one in the hospital for 200 students. Shortfall observed is shown in **Table 5.12**.

Table 5.12: Details of shortfall in Lecture Theatre in test checked GMCs

Description	Requirement as per MSRR, 1999 for 150 admissions	Available		Requirement as per MSRR, 1999 for 200 admissions	Available
		Anantapur (150)	Srikakulam (150)		Nellore (200)
No of L.T available	5	5	4	5	4
Seating capacity of each theatre	180X4, 200X1	150X5	150X2, 100X2	240X4, 300X1	180X4

Source: Medical College records

- Shortfall in Seating capacity of lecture theatres is 170 and 420 in GMC Anantapur and GMC Srikakulam respectively.

¹⁴⁴ 1. Administrative Block, 2. College Council, 3. Central Library, 4. Lecture Theatre, 5. Examination Hall, 6. Central Photographic Section, 7. Central Workshop, 8. Animal House and 9. Central Incineration Plant

- No. of lecture theatres in GMC, Srikakulam is four against the requirement of five and hence a shortfall of one lecture theatre.
 - The number of lecture theatres in GMC, Nellore is four against the requirement of five and hence a shortfall of one lecture theatre.
 - Lecture theatre with seating capacity of 300 was not available in GMC Nellore.
- c. **Examination Halls:** As per Clause A.1.6. of MSRR, 1999, for colleges with 150 admissions, there shall be two examination halls of capacity 250 with area of 250 sq.mt each, which should be flat type and should have adequate chairs with desk/writing benches in such a manner that there would be sufficient space between two students.

The availability of examination halls, their extents and seating capacities are depicted in **Table 5.13**.

Table 5.13: Details of shortfall in Examination Halls in test checked GMCs

Description	Requirement as per MSRR, 1999 for 150 admissions	Available		Requirement as per MSRR, 1999 for 200 admissions	Available Nellore (200)
		Anantapur (150)	Srikakulam (150)		
No. of Examination Hall	2	2	2	3	1
Extent of each examination hall in sq.m	250 Sq. m each	279.63 Sq.m	125 Sq.m	250 Sq.m each	1348 Sq.m
Seating capacity of each hall	250	150	125	250	-

Source: Medical College records

- The area of examination halls in GMC, Srikakulam is half the prescribed area.
 - A shortfall in seating capacity of 100 & 125 was noticed in each examination hall of GMC, Anantapur & Srikakulam respectively.
 - In GMC, Nellore instead of three, only one examination hall was available.
 - Details of seating capacity were not furnished by GMC, Nellore.
- d. **Central Photographic Section:** As per Clause A.1.7 of MSRR, 1999, Central Photographic and audio-visual sections with accommodation for studio, dark room, enlarging and photostat work shall be made available.

We observed that Central Photographic and audio-visual sections were not available in GMCs Anantapur and Nellore.

Thus, the test-checked hospitals were not MSRR 1999 compliant, in terms of accommodations such as central library, examination hall, lecture theatre *etc.*

Government accepted (August 2023) the audit observation and promised future compliance.

5.4.1.3 Department-wise shortfall in accommodation

The MSRR,1999 prescribed minimum requirement of accommodation such as rooms for professors, Associate professors, Assistant professors, tutors, staffs, demo room, dissection hall *etc.*, for each department (teaching and technical staff) of the medical college. However, shortfall in availability of accommodation was noticed as detailed in **Table 5.14**.

Table 5.14: Details of Department wise shortfall in accommodation in test checked GMCs

Name of the Department	Name of the items	Requirement as per MSRR,1999 (150 seats)	Available	Shortfall	Shortfall Percentage
GMC, Anantapur					
Biochemistry	Tutors/Demonstration rooms	1	0	1	100
	Departmental office cum clerical room	1	0	1	100
	Working accommodation for non-teaching staff	1	0	1	100
Human Anatomy	Cold storage room in Dissection Hall	1	0	1	100
	Working accommodation for Non-teaching staff	1	0	1	100
GMC, Nellore					
Human Anatomy	Extent of demonstration room	75 Sq.m	60 Sq.m	15 Sq m	20
	Extent of Dissection Hall	400 Sq.m	325 Sq.m	75 Sq.m	18.75
	Cold storage room in Dissection Hall	1	0	1	100
	Room for Assist. professor/lecturer	4	1	3	75
	Room for Tutors/Demonstration	5	1	4	80
	Extent of histology laboratory	300 Sq.m	200 Sq.m	100 Sq. m	33.33
Forensic Medicine	Demonstration room	3	2	1	33.33
	Extent of demonstration room	75 Sq.m	25 Sq.m	50 Sq.m	66.67
	Laboratory for examination of specimens, tests and forensic histopathology, serology, anthropology and toxicology	1	0	1	100
	Associate professor room	2	1	1	50
	Room for Demonstration /tutor	4	0	4	100
Community Medicine	Demonstration room	3	2	1	33.33
	Extent of demonstration room	75 Sq.m	60 Sq.m	15 Sq.m	20
	Room for Assist. professor/lecturer	4	1	3	75
	Room for Tutors/Demonstration	5	1	4	80

Name of the Department	Name of the items	Requirement as per MSRR,1999 (150 seats)	Available	Shortfall	Shortfall Percentage
GMC, Srikakulam					
Community Medicine	Extent of Museum	125 Sq.m	75 Sq.m	50 Sq.m	40
	Extent of research laboratory	50 Sq.m	20 Sq.m	30 Sq.m	60
Microbiology	Demonstration room	1	0	1	100
Pathology	Extent of practical laboratory for morbid anatomy and histopathology/cytopathology	200 Sq.m	130 Sq.m	70 Sq.m	35
Physiology	Extent of Amphibian laboratory	200 Sq.m	150 Sq.m	50 Sq.m	25
Human Anatomy	Extent of Dissection Hall	325 Sq.m	300 Sq.m	25 Sq.m	7.69
	Room for Assist. professor/lecturer	3	2	1	33.33

Source: Medical College records

We observed that:

➤ **GMC, Anantapur**

Two out of eight departments did not have required space such as tutors/demonstration room, clerical room, non-teaching staff room and cold storage room.

➤ **GMC, Nellore**

Three out of eight departments were functioning with less space than prescribed extents.

➤ **GMC, Srikakulam**

Five out of eight departments were functioning with less space than prescribed extents.

Shortfall in accommodation may lead to inconvenience to students as well as teaching and non-teaching staff in discharging their duties.

Government accepted (August 2023) the audit observation and promised future compliance.

5.4.1.4 Non upgradation of infrastructure to increased MBBS seats

The Government accorded administrative sanction (September 2017) for an amount of ₹60 crore each for upgradation of the Government Medical Colleges, Anantapur and Srikakulam, to increase MBBS seats from 100 to 150. The upgradation work was taken up under the centrally sponsored scheme, with 60 : 40 *per cent* sharing basis of funds.

Agreements were concluded in respect of GMC Srikakulam (February 2019) and Anantapur (December 2018). Status of these works is stated below:

➤ The following upgradation works in GMC, Srikakulam scheduled to be completed by 14 May 2022:

- (i) New block for library and lecture hall (four number)
- (ii) Vertical expansion of hospital block (4th floor)
- (iii) Vertical expansion of existing MCH block for UG & female interns.
- (iv) Vertical expansion of male interns' hostel for male residents (2nd floor)
- (v) Vertical expansion of nurses' hostel for female residence (2nd & 3rd floor).

Though the date of completion was extended up to 28 October 2022, the work was not completed. Further, payment of ₹15.80 crore was also made on 30 September 2021 to the contractor. The Chief Engineer, APMSIDC, Mangalagiri replied (September 2022) that the work was delayed due to reasons like COVID-19 pandemic, non-availability of required sand and non-payment of work bills in time.

Due to non-completion of the works the students and staff were facing inconvenience with the present accommodation.

➤ Upgradation work at GMC, Anantapur (vertical expansion at existing building and New Blocks) was approved (Agreement 20 December 2018) and scheduled to be completed by 19 March 2020. This was extended up to 26 March 2022. We observed that work up to basement level only completed at GMC, Anantapur (September 2022).



Figure 5.12: Incomplete Upgradation work at GMC, Anantapur (August 2022)

Further, payment of ₹6.21 crore was made (March 2022) to the contractor. The Executive Engineer, APMSIDC, Anantapur replied (August 2022) that action would be initiated as per the guidelines.

Government accepted (August 2023) the audit observation and assured future compliance.

Delay in completion of upgradation works for the upgraded medical colleges would impact the training of medical students and cause inconvenience to the patients.

5.4.1.5 Hostels

As per Clause A 3 of MSRR, 1999, for 150 admissions annually, college hostels should have at least provision for 75 per cent of total intake of students at a given time. Each

hostel room shall not have more than three occupants. The size of the room shall be nine sq.m / student.

Every student shall undergo a period of certified study extending over four and half academic years divided into nine semesters, (*i.e.*, of six months each) from the date of commencement of study for the subjects comprising the medical curriculum to the date of completion of the examination and followed by one-year compulsory rotating internship as per¹⁴⁵ Regulations on Graduate Medical Education, 1997.

A. Shortfall in Per Capita Space

As per MSRR 1999, the required size of the Room is nine sq.m per student. Extent per student available in hostels of the test checked GMCs is given in **Table 5.15**.

Table 5.15: Details of shortfall in Per capita space in hostel in test checked GMCs

S.No.	GMC	Accommodation (No. of rooms)			Area available (sq.m)	Student capacity (No. of students)	Availability per student (Capacity/ area)
		Boys	Girls	Total			
1	2	3	4	5	6	7	8 = (6)/ (7)
1	Anantapur	112	108	220	2,640.00	532	4.96
2	Srikakulam	105	110	215	3,575.22	430	8.31
3	SPSR Nellore	140	164	304	4,689.00	568	8.25

Source: Medical College records

It can be seen from the above table that in GMC, Anantapur, per capita space was lesser. Shortfall in per capita space would result in congestion.

Government accepted (August 2023) the audit observation and promised future compliance.

B. Deficiencies/Shortages of facilities at Hostels

As per MSRR, 1999, for 150/200 admissions annually, each student shall be provided with independent and separate furniture which shall include chair, table, bed and full size cupboard. Each hostel shall have a Visitors' room and a Study room with Computer & Internet. Both these rooms should be air-conditioned. There shall be a recreational room having T.V., Music, Indoor games and mess facilities.

In three test checked GMCs, the availability of the facilities was examined and shown in **Table 5.16**.

Table 5.16: Details of deficiencies/shortages at hostels in test checked GMCs

S.No	Description	GMCs (UGs Hostels)					
		Srikakulam		Anantapur		Nellore	
1	Visiting Room	without sitting facilities	without sitting facilities	without sitting facilities	without sitting facilities	without sitting facilities	without sitting facilities
2	Study room	without Air conditioning, computer and internet	without Air conditioning, computer and internet	without Air conditioning, computer and internet	without Air conditioning, computer and internet	without Air conditioning, computer and internet	without Air conditioning, computer and internet

¹⁴⁵ point 7- training period and time distribution

S.No	Description	GMCs (UGs Hostels)					
		Srikakulam		Anantapur		Nellore	
3	Recreational Room	Not available	Not available	without TV, Music, Indoor games and mess facilities	without TV, Music, Indoor games and mess facilities	without TV, Music, Indoor games and mess facilities	without TV, Music, Indoor games and mess facilities



Figure 5.13: Overhead tank leakage in girls' hostel, GMC, Srikakulam (June 2022)

Source: Medical College records



Figure 5.14: Dysfunctional Toilet in Girls Hostel, GMC, Srikakulam (June 2022)



Figure 5.15: Four boarders staying in one room in Boys hostel, GMC, Anantapur (August 2022)

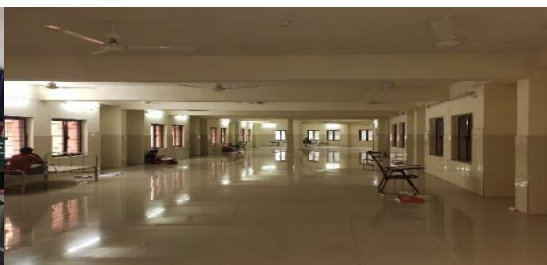


Figure 5.16: Study room without any facilities in Girls hostel, GMC, Anantapur (August 2022)



Figure 5.17: Three boarders in one room in Girls Hostel, GMC, Srikakulam (August 2022)

We observed the following shortfalls in the hostels:-

- Seating facilities were not available in visitors' rooms in Men's and Women's hostels in three test checked GMCs.
- Air-conditioning, computers and internet facilities were not available in Men's and Women's hostels in three test checked GMCs.
- Recreation room was not available in Men's and Women's hostels in GMC, Srikakulam. TVs were not available in Recreation room of other two test checked hostels.
- Floor tiles were in damaged condition in all hostels in test checked colleges.
- Power back-up facility was not provided in Men's Hostel, GMC, Anantapur and Women's Hostel, GMC, Nellore.

- vi. Overhead tank was last cleaned in 2019 in Men's Hostel, GMC, Srikakulam.
- vii. CC cameras provided were not working in Men's Hostel, GMC, Anantapur, and in both Hostels of GMC, Nellore.
- viii. Lift facility was not available at Men's and Women's Hostels having G+3 floors at GMC, Anantapur and Nellore.

Government accepted (August 2023) the audit observation and promised future compliance.

5.4.1.6 Quarters Lying Unoccupied at Government Medical Colleges

As per MSRR 1999 (B. 10.1 & 10.2), there shall be enough quarters to cover 100 *per cent* of the total Sr. Residents and Jr. Residents and at least 20 *per cent* each of Nurses, Teaching & Non- teaching staff respectively. It shall be mandatory for all Senior and Junior Residents to stay in Residents' Hostel / Quarters in the campus where the hospital is located.

We observed that the staff quarters were lying vacant in three test checked GMCs as given in **Table 5.17**.

Table 5.17: Details of unoccupied Quarters in test checked GMCs

Quarter description	Name of the GMC		
	Srikakulam	Nellore	Anantapur
No. of quarters	38	150	53
No. of quarters occupied	19	26	18
No. of quarters unoccupied	19	124	35

Source: Medical College records

Fifteen Senior Residents in GMC Anantapur were staying outside the college campus.

- Out of 18 senior residents in GMC Nellore, only three were staying in the campus. Even though sufficient number of quarters were available, the Senior residents were not staying in the hospital quarters which would affect emergency services in the hospital.

Government accepted (August 2023) the audit observation and stated that unoccupied quarters would be allotted to needy staff.

However, the availability of Senior and Junior Residents near the Hospital is mandatory to attend 24X7 emergency services.

5.4.1.7 Strengthening of existing Medical Colleges and attached institutions

With a view to strengthening of existing 11¹⁴⁶ Medical Colleges and attached institutions, the Government of AP accorded¹⁴⁷ (22 March 2021) administrative sanction to the Director of Medical Education, AP for an amount of ₹3,850 crore. Audit observed that APMSIDC did not take up any work.

Government accepted (August 2023) the audit observation and promised future compliance.

¹⁴⁶ Medical colleges are 11 only. However, Andhra Medical College Visakhapatnam was having three attached hospitals for upgradation. Hence GO was issued for 13 Medical Colleges.

¹⁴⁷ G.O.Ms.No.32, dt.22.03.2021

5.4.1.8 Establishment of New Medical Colleges

The Ministry of Health & Family Welfare administers a Centrally Sponsored Scheme (CSS) for ‘Establishment of new Medical Colleges attached with existing district/referral hospitals’ with preference to underserved areas and aspirational districts, where there is no existing Government or private medical college.

Accordingly, State Government accorded administrative sanction (12 September 2020) for establishment of three Medical Colleges at Machilipatnam, Piduguralla and Paderu¹⁴⁸ at an estimated amount of ₹550 crore, ₹500 crore and ₹500 crore respectively, under a Centrally Sponsored Scheme in the ratio of 60:40 between Centre and State as detailed in **Table 5.18**.

Table 5.18: Details of release of funds to three new Medical Colleges under CSS

(₹ in crore)

Sl. No.	Location	Share of funding			Budget		Expenditure incurred	Balance
		GoI	State	Total	Year	Amount		
1	Paderu	305	195	500	2021-22	249.99	56.04	193.95
2	Machilipatnam	355	195	550				
3	Pidiguralla	305	195	500				
Total						249.99	56.04	193.95

Source: furnished by APMSIDC

It can be observed from **Table 5.18** that against ₹249.99 crore (₹153.04 crore towards Central share and ₹96.95 crore towards State share) released, an amount of ₹56.04 crore only was spent towards establishment of New Medical Colleges at Paderu Machilipatnam and Pidiguralla. Remaining funds of ₹193.95 crore were surrendered to DME.

Administrative sanction was also given for establishment of 13 New Medical Colleges and however, GoAP accorded administrative sanction (September 2020) for setting up of Medical College at Pulivendula and instructed DME to arrange funds through Project Finance Mode through financial institutions. Department of Health, Medical and Family Welfare, GoAP accorded administrative sanction (March 2021) for an amount of ₹5,800 crore for setting up of remaining 12 New Medical Colleges under State Development Plan (SDP).

However, Agreements were concluded only for GMCs Pulivendula and Vizianagaram with ₹366.09 crore and ₹363.75 crore with scheduled date of completion by 10 December 2023 and 03 December 2023 respectively. Expenditures of ₹80.55 crore and ₹0.44 crore were incurred towards establishment of GMCs Pulivendula and Vizianagaram. However, construction of Government Medical College at Pulivendula only commenced under State Development Plan (SDP).

Government accepted (August 2023) the audit observation and promised future compliance.

¹⁴⁸ vide GO MS Nos 113,114 and 116 dated 12.09.2020.

5.4.2 Government General Hospitals (Medical College attached Hospitals)

Teaching hospital associated with Government Medical College is commonly known as Government General Hospital (GGH). Teaching hospitals shall be under the academic, administrative and disciplinary control of the Dean/Principal/Director who shall not be concurrently Head of Department but can be a teaching faculty in the respective Department.

As per Clause C of MSRR, 1999, each department shall have a Head of the Department of the rank of Professor except in the Departments of Dermatology, Venereology & Leprosy, Psychiatry & Dentistry where Associate Professor may be the Head of the Department. The Staffing pattern of the department is organised based on units. A unit is also called a ward consisting of 30 beds generally. Generally, each clinical department has one or more units.

5.4.2.1 Availability of Physical Infrastructure

As per¹⁴⁹ MSRR 1999, every medical college with 150/200 admissions annually should have 23 departments and two optional Departments in associated Teaching Hospital.

Shortfall in units in the Clinical Departments

We observed shortfall in the no. of units in GGH, Nellore as detailed below in **Table 5.19**.

Table 5.19: Details of Department wise shortfall in Units at GGH, Nellore

S.No.	Name of the Department	No. of units required as per MSRR, 1999	No of units available	Shortfall
1	Orthopedics	4	3	1
2	General Medicine	7	4	3
3	General Surgery	7	5	2
4	Ophthalmology	2	1	1

Source: Information furnished by the GGHs.

Government accepted (August 2023) the audit observation and promised future compliance.

5.4.2.2 Availability of Beds

As per MSRR,1999, stipulated the number of units required and beds per unit to be available for 150 and 200 admissions for 10 departments. Details of number of units and beds per unit required for 150 and 200 admissions in 10 departments as detailed in **Table 5.20**.

Table 5.20: Details of Requirement of Units & Beds in 10 Departments

Sl. no.	Name of the clinical department	for 150 admissions		200 admissions	
		No. of units	No. of beds	No. of units	No. of beds
1	General Medicine	5	150	7	210
2	Paediatrics	3	90	4	120
3	Psychiatry	1	15	1	15

¹⁴⁹ Point 3

Sl. no.	Name of the clinical department	for 150 admissions		200 admissions	
		No. of units	No. of beds	No. of units	No. of beds
4	Dermatology, Venereology and Leprosy	1	15	1	15
5	Tuberculosis and Respiratory Diseases	1	20	1	30
6	General Surgery	5	150	7	210
7	Orthopedic	3	90	4	120
8	Ophthalmology	1	15	2	40
9	Oto-Rhino-Laryngology	1	15	1	20
10	Obstetrics and Gynaecology	3	90	4	120
	Total	24	650	32	900

Source: Information furnished by the GGHs.

During test check of three GGHs in Anantapur, SPSR Nellore and Srikakulam, we observed shortfall in availability of beds against the regulations as detailed in **Table 5.21**.

Table 5.21: Details of Shortfall in bed availability in test checked GGHs

Name of the Hospital	Required No. of beds	Available	Name of the Department	No. of beds required	Available	Shortfall
GGH, Nellore	900	870	Obstetrics & Gynaecology	120	100	20
			Ophthalmology	40	30	10
GGH, Anantapur	650	627	Orthopedics	90	70	20
			Psychiatry	15	12	3
GGH, Srikakulam.	650	633	Orthopedics	90	75	15
			General Medicine	150	148	2

Source: Information furnished by the GGHs.

- There was a shortfall of 30 beds (Obstetrics & Gynaecology Dept.-20 and Ophthalmology Dept.-10) in GGH, Nellore.
- There was a shortfall of 23 beds (Orthopaedic Dept.-20 and Psychiatry Dept.-3) in GGH, Anantapur.
- There was a shortfall of 17 beds (Orthopaedic Dept.-15 and General Medicine Dept.-2) in GGH Srikakulam.

Government accepted (August 2023) the audit observation and stated that the bed strength was enhanced to 917 in GGH Nellore, 970 in GGH Anantapur and 750 in GGH Srikakulam.

5.4.2.3 Availability of Equipment in Clinical Departments

Against the requirement as per MSRR1999, we observed in test checked GGHs that many types of equipment were not available as detailed in **Table 5.22**.

Table 5.22: Shortfall in Equipment in the Clinical Departments of test checked GGHs

Sl. No.	Name of the Department	Types of equipment Required 150	Type of equipment not available at GGHs		Types of equipment Required for 200 beds Hospital	Type of equipment not available at GGH Nellore
			Anantapur	Srikakulam		
1	General Medicine	53	35	28	53	40
2	Paediatrics	49	17	15	49	10
3	Psychiatry	13	11	10	13	11
4	Dermatology, Venereology and Leprosy	8	8	8	8	8
5	Tuberculosis and Respiratory Diseases	13	4	5	13	3
6	General Surgery	42	16	29	42	15
7	Orthopedic	25	11	10	25	7
8	Radio Diagnosis	9	2	3	9	6
9	Oto-Rhinolaryngology	178	48	75	178	80
10	Ophthalmology	39	9	6	39	15
11	Obstetrics and Gynaecology	97	15	50	97	47
12	Anesthesiology	51	19	20	51	24

Source: Information furnished by the GMCs

Thus, with the short availability of equipment in three test checked GGHs, it is doubtful that the student would receive proper instructions and practice.

We observed that clinical Departments in the test checked GGHs had a shortfall of the following important equipment as detailed in **Table 5.23**.

Table 5.23: Details of 100 per cent Shortfall of certain equipment in test checked GGHs

Sl. No.	Name of the department	GGH Anantapur	GGH Nellore	GGH Srikakulam
1	Radio diagnosis	DR, System, multimedia projector with screen	500 MA & 800 MA x-ray, CR& DR system, CT (16 slice), multimedia projector with screen	Mammography, multimedia projector with screen
2	Anaesthesiology	OT- Fibre optic bronchoscope, PNS, ABG machine, side lab for emergency investigation, Pain clinic-Fluoroscopy machine, nerve locator, Anodyne machine, Anesthetic machine with resuscitation equipment <i>etc.</i>	OT- LMA / PLMA of all sizes, EtCO2 monitor, Fibre optic bronchoscope, PNS, ABG machine, side lab for emergency investigation, Anodyne machine, Anesthetic machine with resuscitation equipment <i>etc.</i> Transcutaneous Electric Nerve Stimulating Machine, ultrasound machine <i>etc.</i>	OT- Fibre optic bronchoscope, PNS, ABG machine, oxygen therapy unit, Radio frequency ablation machine, Fluoroscopy machine, Styleted Epidural catheter, Rac's catheters, nerve locator, Anodyne machine, Anesthetic machine with resuscitation equipment <i>etc.</i>

Sl. No.	Name of the department	GGH Anantapur	GGH Nellore	GGH Srikakulam
3	OBS & Gynae.	MR Syringes, Cryo/electro cautery apparatus, Hysterosalpingograms Cannula, PCT forceps, Ayer's spatula OT-Tuboplasty set, Laparocator for tubal ligation, Resectoscope, Hysterometer, Operative microscope, Low mid cavity forceps/Keill and forceps, Vacuum Extractor and suction machine, Infusion Pump, Laparocator for tubal ligation, microscope <i>etc.</i>	EA + ECC sets, MR syringes, Cryo/electro cautery apparatus, Simple fetal Doppler, ultrasound machine, NST machine, Hysterosalpingogram Cannula, PCT forceps, OT- Tuboplasty set, Laparocator for tubal ligation, histo mat, operative microscope, D&C set, MTP set, Cervical exploration set, Uterine packing forceps, Abdominal hysterectomy set, Diagnostic laparoscopy set, Postpartum ligation, Low mid cavity forceps/Keil and forceps, Vacuum Extractor and suction machine, Infusion Pump, EB set, Laparocator for tubal ligation, CTG machine, Ultrasound machine with Doppler/Vaginal probe/facilities for Interventional procedure, Oxytocin infusion pumps, Multichannel Monitor with ECG, BP, HR, Pulse oximeter for high risk pregnant patients (eclampsia, heart diseases <i>etc.</i>), Fetal Monitor for Antepartum Surveillance Fetal doppler, portable ultrasound	EA + ECC sets, MR syringes, Cryo /electro cautery apparatus, NST machine, Hysterosalpingogram Cannula, Digital/electronic blood pressure apparatus, colposcope, PCT forceps, Ayer's spatula OT- Tuboplasty set, Laparocator for tubal ligation, histo mat, operative microscope, Electronic Carbon dioxide insufflator/ Insufflator basic unit. Digital/ Electronic B.P. Apparatus, Portable ultrasound Oxytocin infusion pumps, Multichannel Monitor with ECG, BP, HR, Pulse oximeter for high-risk pregnant patients (eclampsia, heart diseases <i>etc.</i>) EB set, Uterine packing forceps, Postpartum ligation, Low mid cavity forceps/Keil and forceps, Infusion Pump, EB set, Laparocator for tubal ligation, Ultrasound machine with Doppler/Vaginal probe/facilities for Interventional procedure, Oxytocin infusion pumps, Multichannel Monitor with ECG, BP, HR, Pulse oximeter for high-risk pregnant patients (eclampsia, heart diseases <i>etc.</i>), Fetal Monitor for Antepartum Surveillance Fetal doppler, portable ultrasound.

Sl. No.	Name of the department	GGH Anantapur	GGH Nellore	GGH Srikakulam
4	Paediatrics	i. Resuscitation equipment- Nasal prongs, Nasal catheters ii. Drug Delivery Equipment/ Catheter/tube- Blood Transfusion Set, Umbilical vein Catheter iii. Measurement Equipment Digital Weighing machine - Shakir's tape, Measuring tape, Digital thermometer-Oral. Work Lab and Investigations- Bone marrow needle, Lumbar Puncture (L.P.) Needles, Pleural aspiration needle, Vim-Silverman liver biopsy needle, True Cut Renal biopsy needle	i. Resuscitation Nasal catheters ii. Measurement Equipment Digital Weighing machine - Shakir's tape, measuring tape, Infant meter Stadiometer, digital BP measuring Instrument with various cuff sizes Work Lab and Investigations- Lumbar Puncture (L.P.) Needles, Vim-Silverman liver biopsy needle, True Cut Renal biopsy needle	i. Resuscitation equipment- Nasal catheters ii. Drug Delivery Equipment/ Catheter/tube- Blood Transfusion Set, Umbilical vein Catheter, Intra-venous (I.V.) Cannula (Butterfly type), Three-way and four-way valve iii. Measurement Equipment Digital Weighing machine - Infant & child, Digital Thermometer-Oral, digital BP measuring Instrument with various cuff sizes. iv. Work Lab and Investigations-Pleural aspiration needle, True Cut Renal biopsy needle

Source: Information furnished by the GGHs

Due to shortage of equipment, patients had to opt for private treatment which was expressed during patient surveys as detailed in **Table 5.24**.

The abstract of inpatients surveyed in all the test checked GGHs is shown below.

Table 5.24: Abstract of Inpatients surveys in test checked GGHs and paid out of pocket

Name of the GGHs.	No of In-patients surveyed	No of patients who had to pay out of pocket for medicines/diagnostic tests/lab services etc., as per the survey
Srikakulam	23	9
Anantapur	23	8
Nellore	27	8
Total	73	25

It can be seen from **Table 5.24** that in three test-checked GGHs, 25 patients out of 73 surveyed inpatients received either medicines or diagnostic test or lab services from outside agency and paid for the medicines and services received.

Government accepted (August 2023) the audit observation and promised future compliance.

5.4.2.4 Blood Banks

As per the Drugs and Cosmetics Rules, 1945 section 122E.A(d), 'Blood Bank' means a place or organisation or unit or institution or other arrangements made by such organisation, unit or institution for carrying out all or any of the operations for

collection, apheresis¹⁵⁰, storage, processing and distribution of blood drawn from donors and/or for preparation, storage and distribution of blood components. Under section 122A, license from Drug Control Administration is required for operation of Blood Bank in the State. As per Rules 122-F of the above Act, the applicant has to apply for the grant and/or renewal of license for the operation of a Blood Bank with the Licensing Authority appointed under Part VII in Form 27- C or Form 27-E or Form 27-F, as the case may be.

We observed that the license of Blood Bank in GGH, Srikakulam had expired on 18 August 2021 and was under renewal. Licenses of Blood Bank in GGH, Anantapur and GGH, Nellore were valid up to December 2022.

Some equipment like Refrigerator Remi BR 300, Refrigerator Jewet and deep freezers were not in working condition at GGH Nellore. Two Blood Bank centrifuges and two refrigerators were not working at GGH, Anantapur.

Pictures of equipment not working



Figure 5.18: Dysfunctional centrifuges in GGH Anantapur (August 2022)



Figure 5.19: Dysfunctional refrigerator in GGH, Anantapur (August 2022)

Government accepted (August 2023) the audit observation and stated that Blood Bank licence was obtained for GGH Srikakulam, and promised future compliance regarding licenses for remaining units are under process.

5.5 COVID-19 Management

A sudden and usually unforeseen event that calls for immediate measures to mitigate impact is an Emergency. A set of written procedures that guide emergency actions, facilitate recovery efforts, and reduce the impact of an emergency event is termed as Emergency response plan. Hospitals are complex and potentially vulnerable institutions, dependent on external support and supply lines. It is a challenging effort even for a well-prepared hospital, to cope with the consequences of a disaster.

In recent times, the world faced COVID-19 pandemic which caused immense pressure on the healthcare system. To combat with the pandemic, due to changed priorities, GoI brought out an Emergency Covid Response and Health Systems Preparedness (COVID-19 ER&HSP) package with the objective to slow and limit the spread of COVID-19 as much as possible, to strengthen National and State Health Systems to support prevention and preparedness and to strengthen the surveillance activities including setting up of Laboratories and Management of COVID-19.

¹⁵⁰ A technique by which a particular substance or component is removed from the blood, the main volume being returned to the body

5.5.1 India COVID-19 Emergency Response and Health System Preparedness Package

COVID-19 ER&HSP is a GoI scheme intended to support accelerating and scaling up of the States' response to COVID-19 pandemic and serves the dual purpose of setting up the building blocks to strengthen health systems to respond to future disease outbreaks. In addition, the package is to provide resources to expand surveillance capacity, critical human resources for health, and laboratory capacity. Funds received under the scheme were managed through Emergency Covid Response Plan (ECRP) team in NHM.

5.5.1.1 Fund utilisation under COVID-19 in Andhra Pradesh

Public Health being a state subject, the primary responsibility of strengthening public healthcare system lies with the respective State Governments. However, Ministry of Health and Family Welfare (MoHFW) provided technical and financial support to the States to strengthen public healthcare system including management of COVID-19. GoI released funds under two packages, viz., Emergency Covid Response Package-I (ECRP-I) and ECRP-II. Under ECRP-I, (Phase-I) funds released during the financial year 2020-21 (January 2020 to June 2020) are 100 per cent central funding¹⁵¹ and the releases made during 2021-22, with 60 per cent Central share and 40 per cent State share.

Table 5.25: Utilisation of funds under COVID-19

		(₹ in crore)				
		2019-20	2020-21	2021-22	2022-23	Total
GoI share	Receipt	61.85*	330.36	823.95	-	1,216.16
	Exp.	61.85	428.76	484.03	-	974.64
	Balance	0.00	(98.40)	339.92	-	241.52
State share	Receipt	-	432.44	1,883.72	46.48	2,362.64
	Exp.	-	432.44	1,994.03	-	2,426.47
	Balance	-	0.00	(110.31)	46.48	(63.83)
SDRF	Receipt	160.90	534.75	660.76	-	1,356.41
	Exp.	160.90	534.75	364.81	-	1,060.46
	Balance	0.00	0.00	295.95	-	295.95
DMF	Receipt	-	18.23	7.92	-	26.15
	Exp.	-	141.43	3.00	-	144.43
	Balance	-	(123.20)	4.92	-	(118.28)
Total	Receipt	222.75	1,315.78	3,376.35	46.48	4,961.36
	Exp.	222.75	1,537.38	2,845.87	0.00	4,606.00
	Balance	0.00	(221.60)	530.48	46.48	355.36

Source: Information furnished by NHM

*Received in April 2020 (2020-21)

Note: Minus balances were due to funds were routed through NHM's bank account, the amounts were utilised without reconciliation

To mitigate the pandemic, GoAP had incurred an expenditure of ₹4,606.00 crore out of allocated amount of ₹4,961.36 crore during the years 2019-20 to 2022-23.

¹⁵¹ NHM guidance note dated 23.04.2020 (Annexure to DO Lr. No.Z.18015/10/2020-NHM-II-Part (1))

Procurements without need assessment

NHM Guidance Note on India COVID-19 Emergency Response and Health Systems Preparedness Package requires the State to follow due process and apply the relevant prevailing financial norms of the State while undertaking procurement activities.

As per Medical Equipment Procurement Policy 2016, the decision to purchase medical equipment should be based on the need, usage of the existing equipment, availability of the technical manpower, recurring cost to maintain the equipment, the services being proposed to be provided to the patients and availability of resources. APMSIDC is the nodal agency for all medical procurements in the State as per the Policy.

DMHO, Anantapur received funds (June 2020) towards COVID-19 from NHM. DMHO issued (July 2020) purchase order for procurement of ten mobile X-ray units and ECG machines worth ₹51.80 lakh. Further, APMSIDC was also not consulted before procurement of these items.

Basing on the purchase order, equipment was received by the HCF, in August 2020 and September 2020 and installation was completed by the agency (Wipro GE Healthcare) to end of November 2020. One mobile X-ray unit supplied to GGH, Anantapur, was dysfunctional since February 2022. Thus, the procurement was made without assessing the need, without consulting APMSIDC and not on emergency basis.

Reply from the Government is awaited.

5.5.1.2 Virus Research and Diagnostic Laboratories not established

Virus Research and Diagnostic Laboratories (VRDLs) is a designated laboratory under VRDL network established by Government of India¹⁵², as a part of implementation of the Scheme 'Establishment of a Network of Laboratories for Managing Epidemics and Natural Calamities' to strengthen infrastructure of viral diagnostics in India. These labs are intended to provide support in cases of viral outbreak. VRDL also provides routine diagnostic services (immunologic and/or molecular) for Dengue (including serotyping), Chikungunya, Hepatitis panel, Respiratory Panel, Japanese encephalitis Virus, Scrub Typhus and Zika virus. The utility of VRDLs extends beyond pandemic or immediate emergency circumstances.

During test check of DH Tekkali, it was noticed that the laboratory is non-functional and the equipment received (July 2021) towards the laboratory was kept idle. The Hospital replied (June 2022) that the lab is non-functional in the DH and the same was intimated to DCHS, Srikakulam. It was further stated that Government of AP had discontinued the establishment of VRDL laboratory in the premises of DH, Tekkali. However, the equipment was not allotted to any other hospital and was lying idle in DH and the laboratory was kept non-functional.

Government replied (August 2023) that VRDL was sanctioned during COVID-19 pandemic in 2021 in DH Tekkali and was extensively used during pandemic. The services of scientist and lab technicians were terminated after COVID pandemic. With

¹⁵² Department of Health Research, Ministry of Health & Family Welfare

the availability of Microbiologist at DH Tekkali, VRDL was put into use from 02 October 2022.

Further Government replied that Microbiology lab is proposed to be started so as to utilise that VRDL lab and equipment in the proposed Microbiology lab.

The reply confirms audit contention that the VRDL lab and the equipment were not put to use.

5.5.2 Availability of Ventilators and Oxygen Concentrators under COVID-19 in Health Institutions

Ventilators are of two types - Invasive and non-invasive ventilators. Invasive ventilators require well-trained medical staff to perform the intubation and to manage the pressure setting controls and alarms. Non-invasive ventilators, mainly continuous positive airway pressure (CPAP), bi-level positive airway pressure (BPAP) and high-flow oxygen systems require health workers to take infection control measures to reduce the risk of becoming infected with COVID-19 by the generation of aerosols.

5.5.2.1 Procurement and availability of Ventilators

Keeping in mind the need and with the primary objective of dealing with emergency or distress situation, such as that posed by the COVID-19 pandemic, and to provide relief to the affected, ventilators were procured by APMSIDC as detailed in **Table 5.26**.

Table 5.26: Ventilators procured by APMSIDC during COVID in Andhra Pradesh

Date	Make of Ventilator	Type of the ventilator	No. of ventilators procured	Cost of each ventilator (in ₹lakh)	No. of HCFs provided
15 March 2020	Vyaire Medical Inc.	Neo-natal paediatric	75	10.75	12
26 July 2021	Allied Medical Ltd.	-do-	150	10.21	15
26 July 2021	Vyaire Medical Inc.	-do-	150	10.21	15
26 July 2021	Allied Medical Ltd.	Neo-natal with HFNO	50	11.83	12
			425

Source: Purchase orders of APMSIDC

Besides these, some ventilators were supplied directly by MoHFW, New Delhi. However, data was not provided by the Department.

For care of neonates, equipment and surgical items capable of supporting preterm children and appropriate sized nasal interfaces and endotracheal tubes are essential in the paediatric HDU/ICUs. As respiratory illness spread due to COVID-19 pandemic, the health care system faced tough challenges for want of ventilators. To address this, ventilators were provided by GoI.

Further, we observed that AH Seethampeta, CHCs Sompeta and Naidupeta received 15 ventilators, five ventilators and five ventilators respectively in 2022, after second wave of COVID-19 to be established in paediatric ICU wards. However, the ventilators supplied to these HCFs were kept idle since January/February 2022, without establishing ICU wards due to space constraints, lack of trained technicians, etc.

Government replied (August 2023) that in respect of AH, Seethampeta, 15 ventilators were received in 2022, after second wave of COVID-19 and utilised in paediatric ICU wards.

However, Government did not furnish supporting evidence to ensure the utilisation. Reply in respect of CHCs Sompeta and Naidupeta was not furnished.

5.5.2.2 Availability of Oxygen Concentrators (OCs) under COVID-19 in Health Institutions

DCHS Nellore received 623 Oxygen concentrators (OCs) of 10 litres capacity and OCs of five litres capacity in July 2021 and August 2021. However, they were kept idle without distributing them to the HCFs.

DCHS Nellore replied (August 2022) that oxygen concentrators were received without indent and HCFs in the district were provided with sufficient stock of OCs. It was further stated that a letter would be addressed to APMSIDC (July 2022) to transfer the oxygen concentrators to needy hospitals.

However, Reply relating to current status from Government is awaited.

5.5.3 Oxygen services

Oxygen is an essential medicine used to treat patients at all levels of the healthcare system, including in surgery, trauma, heart failure, asthma, pneumonia and maternal and childcare. During COVID-19 season, Oxygen plants were established and infrastructure was created in the HCFs.

Oxygen Plants are designed and installed in HCFs in low-resource settings, and to face sudden emergency. We observed that Oxygen services were available in all 12 DHs. However, central/ piped Oxygen supply was available in 11 DHs, except DH Markapur. In DH, Tekkali, four Oxygen Plants were functional, and one was idle. Since oxygen plants were not functioning, oxygen services to the patients were being extended through portable oxygen cylinders.

Government replied (August 2023) that PSA plant at AH Kadiri was in working condition. However, record substantiating the reply is not furnished to ensure the same.

Reply in respect of the remaining five HCFs is awaited from Government.

5.5.3.1 Oxygen generator equipment kept idle in DH Tekkali

Oxygen generator plant received from Agastya – OXAIR, Australia (Manufactured in September 2021) was kept idle without installation at DH Tekkali (**Figure 5.20**). Medical Superintendent, DH Tekkali replied that the invoice for the plant equipment was not received by the Hospital, and the equipment was not installed.

Reply from the Government is awaited.



Figure 5.20 : Oxygen generator plant at AH Tekkali (June 2022)

5.6 Recommendations

- *Government should increase the number of CHCs to reduce patient load at AHs and DHs and to ensure availability of timely and affordable healthcare.*
- *Government should ensure that amenities and equipment are provided to the Health Care Facilities as per requirement to deliver quality services.*
- *Government should provide required infrastructure with utmost priority whenever the intake capacity of Medical College is increased.*
- *Government should look into the issues of delays in start and/or completion of planned infrastructural works to ensure speedy completion.*

